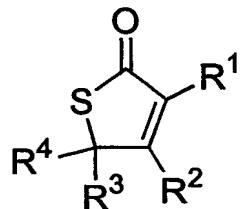


We claim:

--1. A compound of formula:



5

I

wherein:

$R^1 = H$

$R^2 = -OH, -OR^5, -OCH_2C(O)R^5, -OCH_2C(O)NHR^5, -OC(O)R^5, -OC(O)OR^5, -OC(O)NHNH-R^5,$   
or  $-OC(O)NR^5R^6$ , where  $R^5$  is H,  $C_1-C_{20}$  alkyl, cycloalkyl, alkenyl, alkynyl, aryl,

10 arylalkyl, or alkylaryl, and where  $R^5$  can optionally contain halogen atoms;

$R^3$  and  $R^4$ , the same or different from each other, are  $C_1-C_{20}$  alkyl, cycloalkyl, alkenyl, aryl,  
arylkyl, or alkylaryl;

with the proviso that when  $R^2$  is  $-OH$ ,  $-OCH_3$ , or  $-OC(O)CF_3$  and  $R_3$  is  $-CH_3$ , then  $R_4$  is not  $-$   
 $CH_2CH_2OH, -CH_2-(C_6H_5)$ , or  $-CH=CH-CH_3$ , and

15 and the further proviso that when  $R^3$  is  $-CH_2-(C_6H_5)$ , then  $R^4$  is not  $-CH_3$  or  $-CH_2CH_3$ .

2. A compound according to claim 1, wherein  $R^5$  is H,  $C_1-C_{10}$  alkyl, cycloalkyl,  
alkenyl, aryl, arylalkyl, or alkylaryl.

3. A compound according to claim 2, wherein  $R^5$  is H, or  $C_1-C_{10}$  alkyl.

4. A compound according to claim 1, wherein  $R^3$  and  $R^4$  are each independently H,

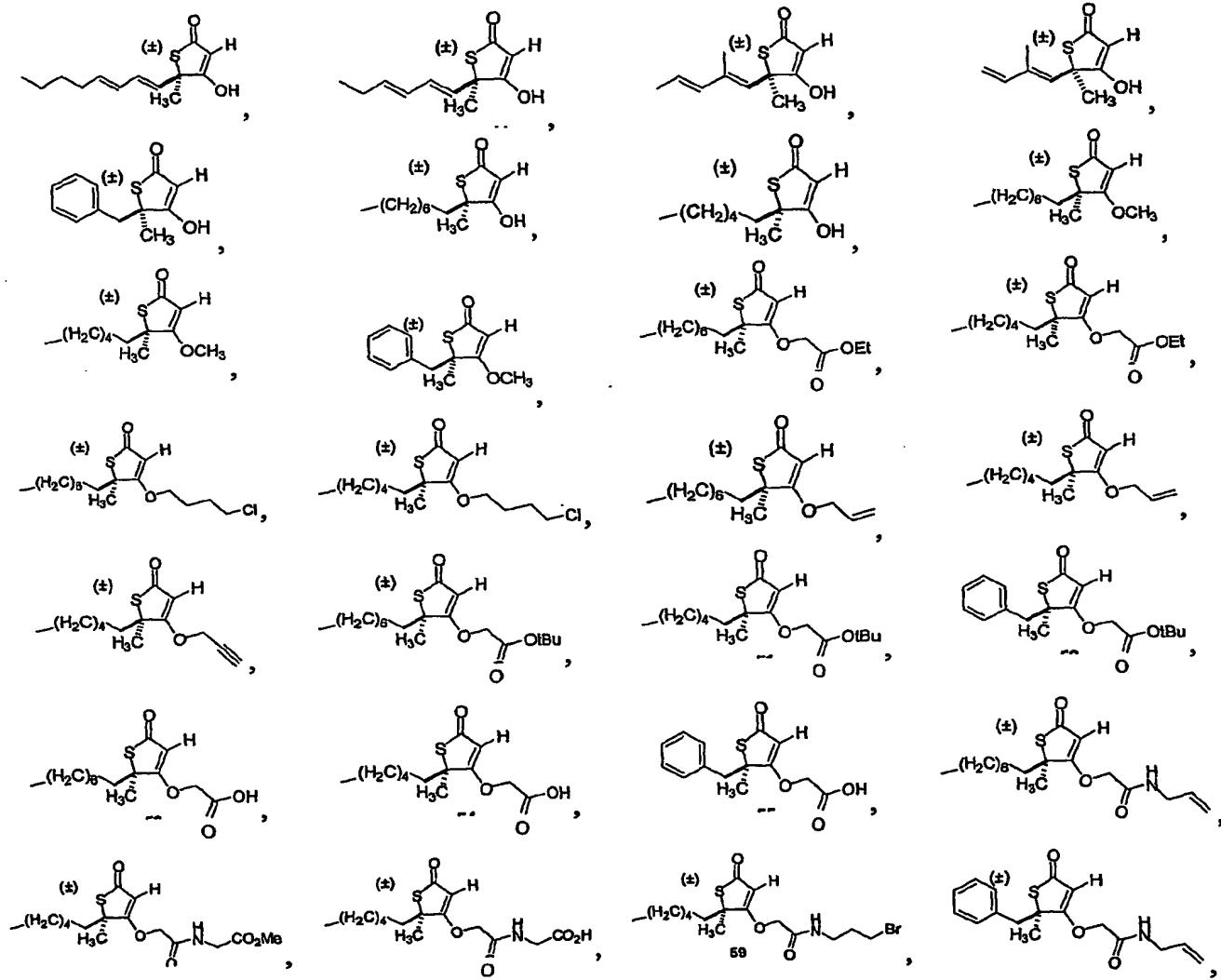
20  $C_1-C_{10}$  alkyl, cycloalkyl, alkenyl, aryl, arylalkyl, or alkylaryl.

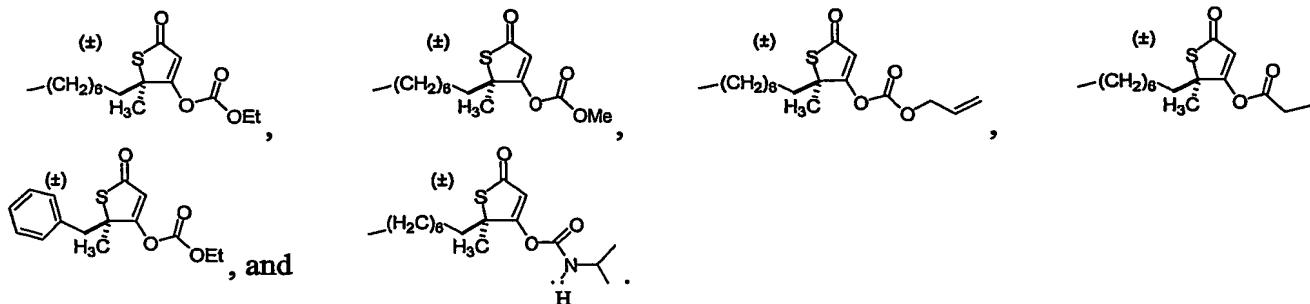
5. A compound according to claim 4, wherein  $R^3$  and  $R^4$  are each independently H, or  $C_1-C_{10}$  alkyl.

6. A compound according to claim 1, wherein,  $R^3$  is  $-H$  or  $-CH_3$ .

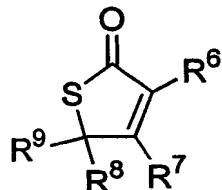
7. A compound according to claim 1, wherein  $R^4$  is  $-nC_6-C_8$  alkyl.

5 8. A compound according to claim 1, wherein the compound is selected from the group consisting of





9. A compound of formula II:



II

wherein

$R^6$  =  $C_2-C_{20}$  alkyl, cycloalkyl, alkenyl, alkynyl, aryl, arylalkyl, or alkylaryl,  $-CHR^{10}OR^{11}$ ,

$-CO(O)R^{10}$ ,  $-C(O)NR^{10}R^{11}$ ,  $-CH_2C(O)R^{10}$ , or  $-CH_2C(O)NHR^{10}$ , where  $R^{10}$  and  $R^{11}$  are

10 each independently H,  $C_1-C_{10}$  alkyl, cycloalkyl, alkenyl, alkynyl, aryl, arylalkyl, or alkylaryl, optionally containing halogen atoms, but  $R^6$  is not di-, tri-, or tetra-alkyl substituted phenyl,

$R^7$  =  $-OH$ ,  $-OR^{12}$ ,  $-OCH_2C(O)R^{12}$ ,  $-OCH_2C(O)NHR^{12}$ ,  $-OC(O)R^{12}$ ,  $-OC(O)OR^{12}$ ,  $OC(O)NHNH-R$

or  $-OC(O)NR^{12}R^{13}$ , where  $R^{12}$  and  $R^{13}$  are each independently H,  $C_1-C_{20}$  alkyl, cycloalkyl,

15 alkenyl, aryl, arylalkyl, or alkylaryl, and where  $R^{12}$  and  $R^{13}$  can optionally contain halogen atoms;

$R^8$  and  $R^9$ , the same or different from each other, are  $C_1-C_{20}$  alkyl, cycloalkyl, alkenyl, aryl,

arylalkyl, or alkylaryl,

with the following provisos:

when  $R^6$  is ethyl, if  $R^8$  and  $R^9$  are not the same, then  $R^8$  or  $R^9$  are not ethyl,  $-CH_2COOH$ ,  $-CH_2C(O)NH_2$ ,  $-CH_2-(C_6H_5)$ , but  $R^8$  and  $R^9$  can be the same, even if  $R^6$  is ethyl, and

5 when  $R^6$  is phenyl, and  $R^7$  is  $-OH$ ,  $R^8$  and  $R^9$  cannot simultaneously be  $-CH_3$  and  $-propenyl$ , and

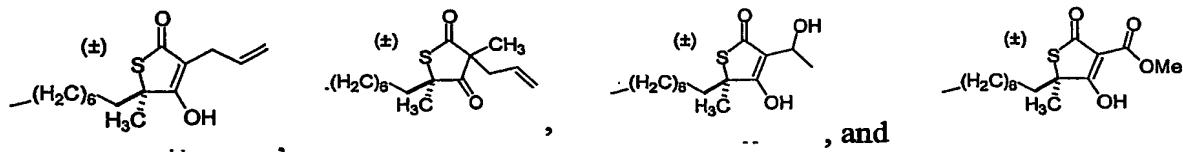
when  $R^6$  is phenyl,  $R^8$  and  $R^9$  cannot simultaneously be  $-CH_3$  or  $-CH_2-(C_6H_5)$ .

10. A compound according to claim 9, wherein  $R^{10}$  is  $C_1-C_{10}$  alkyl, cycloalkyl, 10 alkenyl, aryl, arylalkyl, or alkylaryl.

11. A compound according to claim 9, wherein  $R^8$  is  $-H$  or  $-CH_3$ .

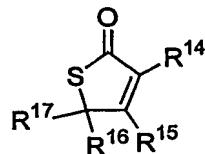
12. A compound according to claim 9, wherein  $R^9$  is  $-nC_6-C_8$  alkyl.

13. A compound according to claim 9, wherein the compound is selected from the group consisting of:



15

## 14. A compound of formula III:



5

III

wherein

$R^{14} = -C(O)R^{18}$ , where  $R^{18}$  is H, C<sub>1</sub>-C<sub>10</sub> alkyl, cycloalkyl, alkenyl, aryl, arylalkyl, or alkylaryl,  
10 optionally containing halogen atoms.

$R^{15} = -OH$ ,  $-OR^{19}$ ,  $-OCH_2C(O)R^{19}$ ,  $-OCH_2C(O)NHR^{19}$ ,  $-OC(O)R^{19}$ ,  $-OC(O)OR^{19}$ ,  
-OC(O)NHNH-R<sup>19</sup>, or -OC(O)NR<sup>19</sup>R<sup>20</sup>, where R<sup>19</sup> and R<sup>20</sup> are each independently H, C<sub>1</sub>-C<sub>20</sub> alkyl, cycloalkyl, alkenyl, aryl, arylalkyl, or alkylaryl, and where R<sup>19</sup> and R<sup>20</sup> can each  
optionally contain halogen atoms;

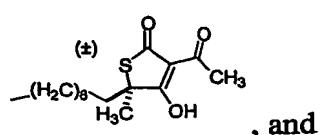
15  $R^{16}$  and  $R^{17}$ , the same or different from each other, are C<sub>1</sub>-C<sub>20</sub> alkyl, cycloalkyl, alkenyl, aryl,  
arylalkyl, or alkylaryl,

with the following provisos:

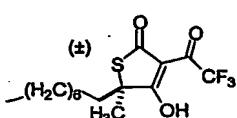
- when  $R^{14}$  is  $-C(O)CH_3$ , and  $R^{16}$  and  $R^{17}$  are not identical, then either  $R^{16}$  or  $R^{17}$  are not  
are not geranyl, p-fluorobenzyl, cinnamyl, farnesyl, methyl, or  $-CH_2-(C_6H_5)$ , and

20 - when  $R^{14}$  is  $-C(O)C_6H_5$ , then either  $R^{16}$  or  $R^{17}$  are not are not methyl.

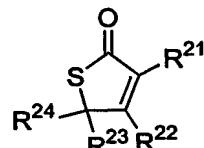
15. A compound according to claim 14, wherein the compound is selected from the  
group consisting of:



, and



16. A pharmaceutical composition comprising a pharmaceutical diluent and a compound of formula IV:



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IV

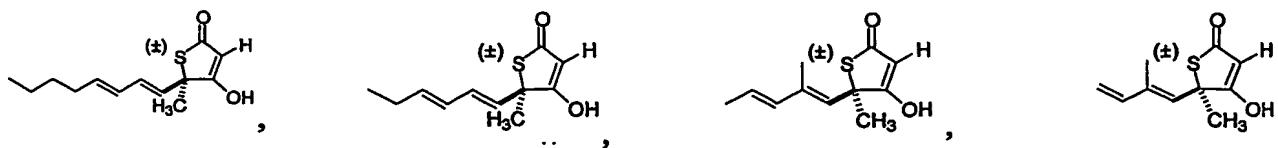
wherein:

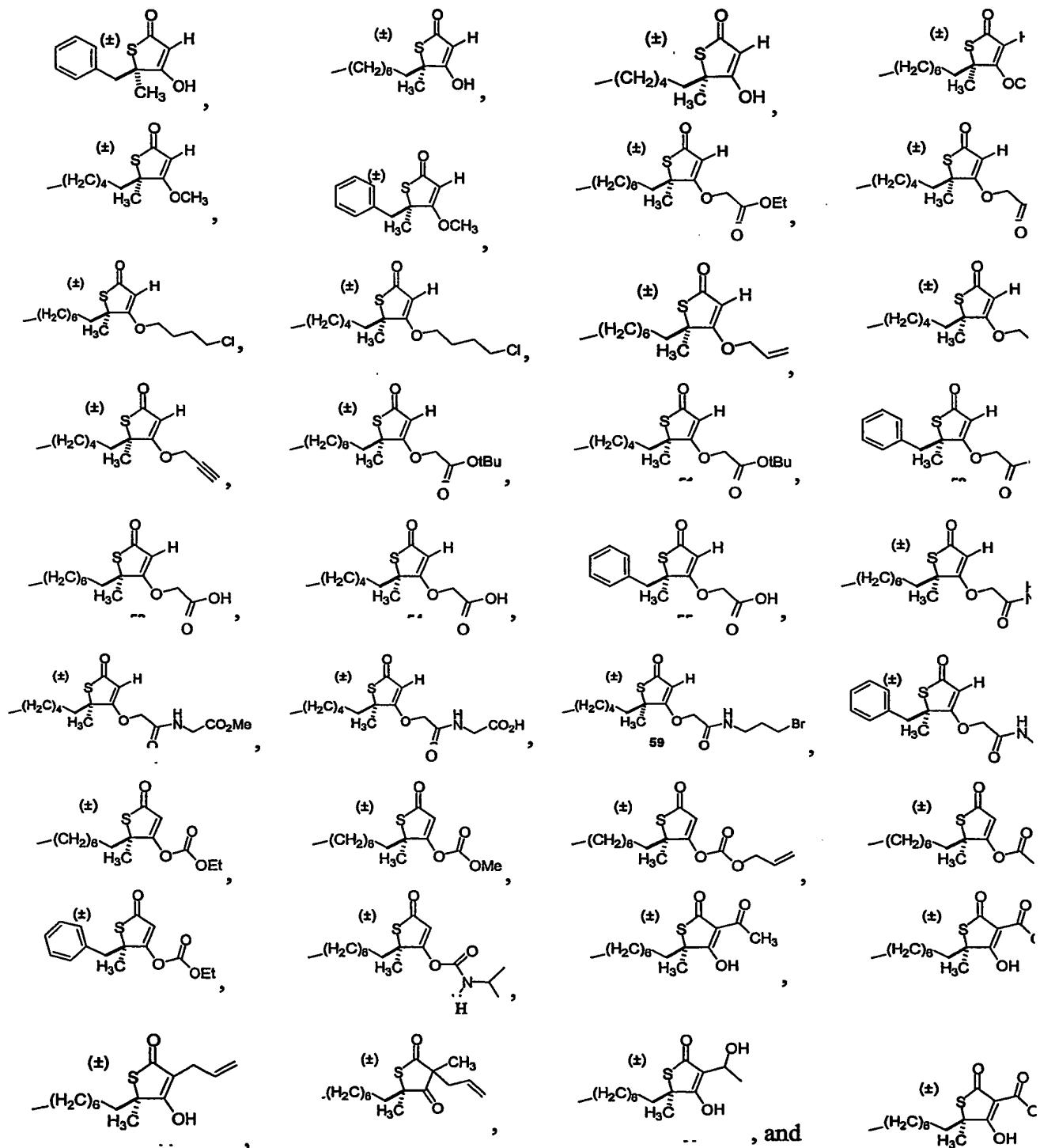
10  $R^{21}$  = H, C<sub>1</sub>-C<sub>20</sub> alkyl, cycloalkyl, alkenyl, aryl, arylalkyl, or alkylaryl, -CH<sub>2</sub>OR<sup>25</sup>, -C(O)R<sup>25</sup>, -CO(O)R<sup>25</sup>, -C(O)NR<sup>25</sup>R<sup>26</sup>, -CH<sub>2</sub>C(O)R<sup>25</sup>, or -CH<sub>2</sub>C(O)NHR<sup>25</sup>, where R<sup>25</sup> and R<sup>26</sup> are each independently H, C<sub>1</sub>-C<sub>10</sub> alkyl, cycloalkyl, alkenyl, aryl, arylalkyl, or alkylaryl, optionally containing one or more halogen atoms.

15  $R^{22}$  = -OH, -OR<sup>27</sup>, -OCH<sub>2</sub>C(O)R<sup>27</sup>, -OCH<sub>2</sub>C(O)NHR<sup>27</sup>, -OC(O)R<sup>27</sup>, -OC(O)OR<sup>27</sup>, OC(O)NHNH-R<sup>27</sup>, or -OC(O)NR<sup>27</sup>R<sup>28</sup>, where R<sup>27</sup> and R<sup>28</sup> are each independently H, C<sub>1</sub>-C<sub>20</sub> alkyl, cycloalkyl, alkenyl, aryl, arylalkyl, or alkylaryl, and where R<sup>27</sup> and R<sup>28</sup> can each optionally contain halogen atoms;

$R^{23}$  and  $R^{24}$ , the same or different from each other, are C<sub>1</sub>-C<sub>20</sub> alkyl, cycloalkyl, alkenyl, aryl, arylalkyl, or alkylaryl.

20 17. A pharmaceutical composition according to claim 16, wherein the compound is selected from the group consisting of:





18. A pharmaceutical composition comprising a pharmaceutical diluent and a compound of formula I.

19. A pharmaceutical composition comprising a pharmaceutical diluent and a

5 compound of formula II.

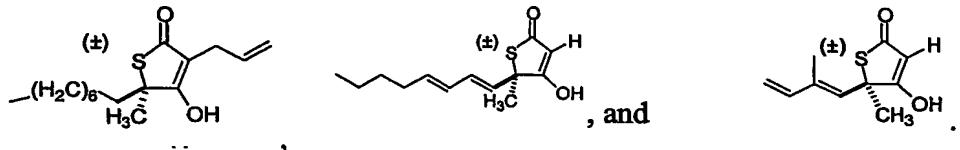
20. A pharmaceutical composition comprising a pharmaceutical diluent and a compound of formula III.

21. A method of inducing weight loss in an animal or human subject comprising administering an effective amount of a pharmaceutical composition according to claim 16 to said 10 subject.

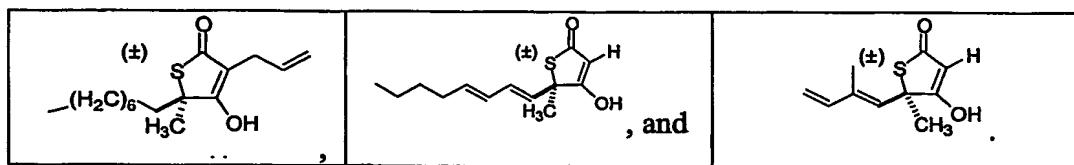
22. The method of claim 21, wherein the subject is a human.

23. The method of claim 21, wherein the subject is an animal.

15 24. The method of claim 22, wherein the pharmaceutical composition comprises a compound selected from the group consisting of:



20 25. The method of claim 23, wherein the pharmaceutical composition comprises a compound selected from the group consisting of:

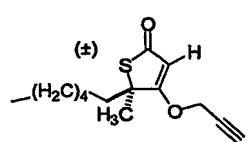
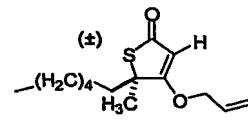
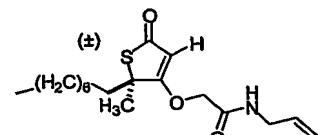
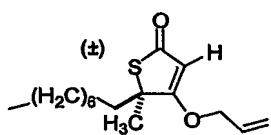
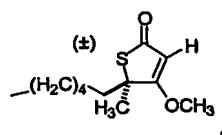


26. A method of treating cancer in an animal or human subject, comprising administering an effective amount of a pharmaceutical composition according to claim 16 to said subject.

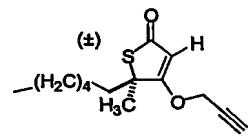
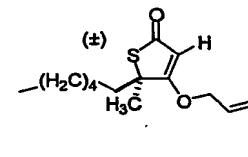
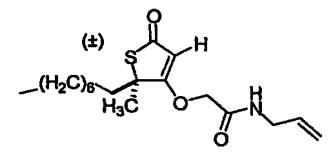
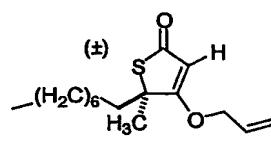
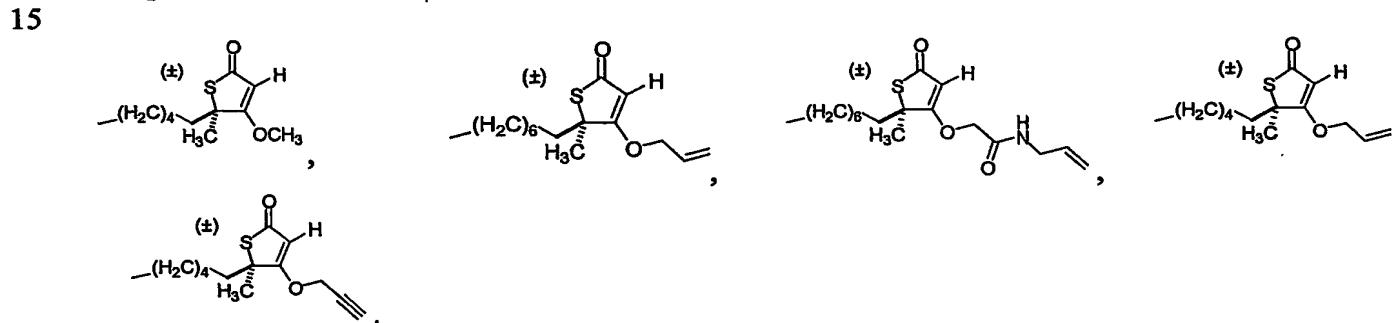
5 27. The method of claim 26, wherein the subject is a human.

28. The method of claim 26, wherein the subject is an animal.

10 29. The method of claim 27, wherein the pharmaceutical composition comprises a compound selected from the group consisting of:



30. The method of claim 28, wherein the pharmaceutical composition comprises a compound selected from the group consisting of:

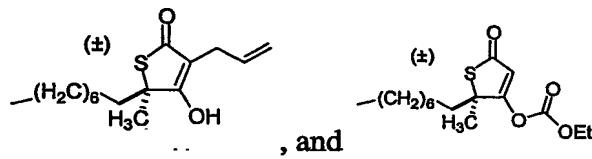


31. A method of stimulating the activity of CPT-1 in an animal or human subject comprising administering an effective amount of a pharmaceutical composition according to claim 16 to said subject.

20 32. The method of claim 31, wherein the subject is a human.

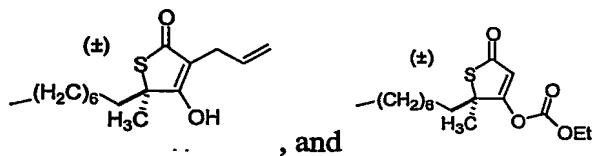
33. The method of claim 31, wherein the subject is an animal.

25 34. The method of claim 32, wherein the compound is selected from the group consisting of:



35. The method of claim 33, wherein the compound is selected from the group consisting of:

5



10 36. A method of inhibiting the activity of neuropeptide-Y in an animal or human subject comprising administering an effective amount of a pharmaceutical composition according to claim 16 to said subject.

15 37. The method of claim 36, wherein the subject is a human.  
38. The method of claim 36, wherein the subject is an animal.

39. A method of inhibiting fatty acid synthase activity in an animal or human subject comprising administering an effective amount of a pharmaceutical composition according to claim 16 to said subject.

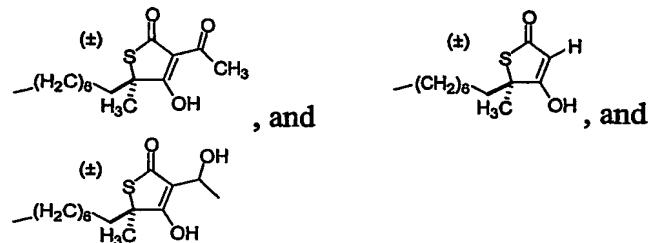
20 40. The method of claim 16, wherein the subject is a human.  
41. The method of claim 16, wherein the subject is an animal.

25 42. A method of inhibiting growth of invasive microbial cells in an animal or human subject comprising the administration of an effective amount of a pharmaceutical composition according to claim 16 to said subject.

43. The method of claim 42, wherein the subject is a human.  
30 44. The method of claim 42, wherein the subject is an animal.

35

45. The method of claim 43, wherein the compound is selected from the group consisting of:



5 46. The method of claim 44, wherein the compound is selected from the group consisting of:

